

Input validation

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Description of how your code works (10 points):

- Language: Python3
- Tool used: gedit (simple text editor)
- Libraries used in code:
 - Sys for i/o functions
 - Re for regular expressions
 - Sqlite for database
- Upon execution of the code a database called phonebook is generated which is used to store
- The database has table called “phonebook” which stores the name and phone number of the user.
- There are 3 types of operations that can be performed using the code:
 - ADD: used to check the input format of the name and number that is in the input arguments and then add it to the database if it satisfies the regular expressions match in the code. (add function)
 - DEL: used to delete the record using the name or phone number of any record. If 2 records have the same then then the program prompts the used to enter the phone number to delete the record. (delete function)
 - LIST: lists all the records in the in the database. (List function)
- Validation of the name is done using the “validatename” function and validation of the phone number is done using the “validatenummer” function
- The main code is used to redirect the code to the functions what the used chooses i.e., ADD, DEL or LIST and execute it.

Compilation/build instructions (10 points), Installation, setup, and execution instructions (10 points):

- Unzip the folder
- And install python3 and required libraries
- Then give the program permissions to execute the code.

```
[11/24/21]seed@VM:~/assignment11$ ls -l
total 12
-rwxrwxrwx 1 root seed 3736 Nov 24 00:54 inputvalidation.py
-rw-r--r-- 1 seed seed 8192 Nov 24 00:54 Phonebook.db
```
- To add a record into phonebook: “python3 inputvalidation.py ADD <name>`<phone number>`”
- To delete a record from phonebook: “python3 inputvalidation.py DEL <name>” or “python3 inputvalidation.py DEL <phone number>”
- To list all the records in the database: “python3 inputvalidation.py LIST”

Assumptions you have made (5 points):

- Only name can be given first and then the number
- There can be many numbers for the same name

- The same number can't be used for multiple names
- The delete function cannot delete record using both the name and number and can only use any one of them at a time
- Only the commands given in this file can be used to execute the program

Pros/Cons of your approach (5 points):

Pros:

- All combination of data given in the document work for this program
- Only valid inputs are accepted that are validated using regex
- Sql injection attacks are not possible as of the parameterized queries

Cons:

- For formats that are not known, the program might fail to filter them.
- Can only be done on the command line using the format given to the user
- Can only add using the name first and number second and not the other way around
- No operation the search the record in the database or pull up a single record.

Bonus:

- For the database we use sqlite and we also use parameterized queries

Program is running successfully:

ADDING A RECORD TO THE DATABASE:

```
[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Gotqam,Arus '+1 (123) 234-2345'
The Contact already exists

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Gotqam,Arus '+1 (123) 434-2345'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Gotqam,Arus '+32 (13) 434-2345'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Goam,Arus '+32 (21) 212-2324'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py LIST
[('Anur,Argus', '12345.12345'), ('Anuraa,Argus', '12345.12445'), ('Gotqam,Argus', '+1 (123) 234-2345'), ('Goqam,Argus', '+1 (123) 234-2444'), ('Goqam,Arus', '+32 (123) 234-2444'), ('Gotqam,Arus', '+1 (123) 434-2345'), ('Gotqam,Arus', '+32 (13) 434-2345'), ('Goam,Arus', '+32 (21) 212-2324')]

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Goam,Arus '(212) 212-2324'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Goam,Arus '212-212-2324'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Goam,Arus '(212) 212-2324'
The Contact already exists

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py LIST
[('Anur,Argus', '12345.12345'), ('Anuraa,Argus', '12345.12445'), ('Gotqam,Argus', '+1 (123) 234-2345'), ('Goqam,Argus', '+1 (123) 234-2444'), ('Goqam,Arus', '+32 (123) 234-2444'), ('Gotqam,Arus', '+1 (123) 434-2345'), ('Gotqam,Arus', '+32 (13) 434-2345'), ('Goam,Arus', '+32 (21) 212-2324'), ('Goam,Arus', '(212) 212-2324'), ('Goam,Arus', '212-212-2324')]

[11/24/21]seed@VM:~/assignment11$
```

```

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Thomas,Arus '123-1234'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Thomas,Arus '12345'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py ADD Thomas,Arus '12345.12342'
Contact has been added to the telephone book

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py LIST
[('Anur,argus', '12345.12345'), ('Anuraa,Argus', '12345.12445'), ('Gotqam,Argus', '+1 (123) 234-2345'), ('Goqam,Argus', '+1 (123) 234-2444'), ('Goqam,Ars', '+32 (123) 234-2444'), ('Gotqam,Arus', '+1 (123) 434-2345'), ('Gotqam,Arus', '+32 (13) 434-2345'), ('Goam,Arus', '+32 (21) 212-2324'), ('Goam,Arus', '(212) 212-2324'), ('Goam,Arus', '212-212-2324'), ('Thomas,Arus', '123-1234'), ('Thomas,Arus', '12345'), ('Thomas,Arus', '12345.12342')]
[11/24/21]seed@VM:~/assignment11$ █

```

DELETING A RECORD FROM THE DATABASE:

```

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py DEL Anuraa,Argus
Contact deleted

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py DEL Gotqam,Argus
Contact deleted

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py DEL Goqam,Argus
Contact deleted

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py DEL Thomas,Arus
Multiple contacts using same name, Please delete using number. Enter the number now.
12345
contact deleted using phone number

```

LISTING THE RCORDS IN THE DATABASE

```

[11/24/21]seed@VM:~/assignment11$ python3 inputvalidation.py LIST
[('Anur,argus', '12345.12345'), ('Goqam,Ars', '+32 (123) 234-2444'), ('Gotqam,Arus', '+32 (13) 434-2345'), ('Goam,Arus', '+32 (21) 212-2324'), ('Goam,Arus', '(212) 212-2324'), ('Goam,Arus', '212-212-2324'), ('Thomas,Arus', '123-1234'), ('Thomas,Arus', '12345'), ('Thomas,Arus', '12345.12342')]
[11/24/21]seed@VM:~/assignment11$

```

The program needs to be set-uid program or need to have all the available permission to execute